

PONY

سلسلة كتب الأستاذ

2024

ICT

Information and
Communication
Technology

4th
Primary
First Term

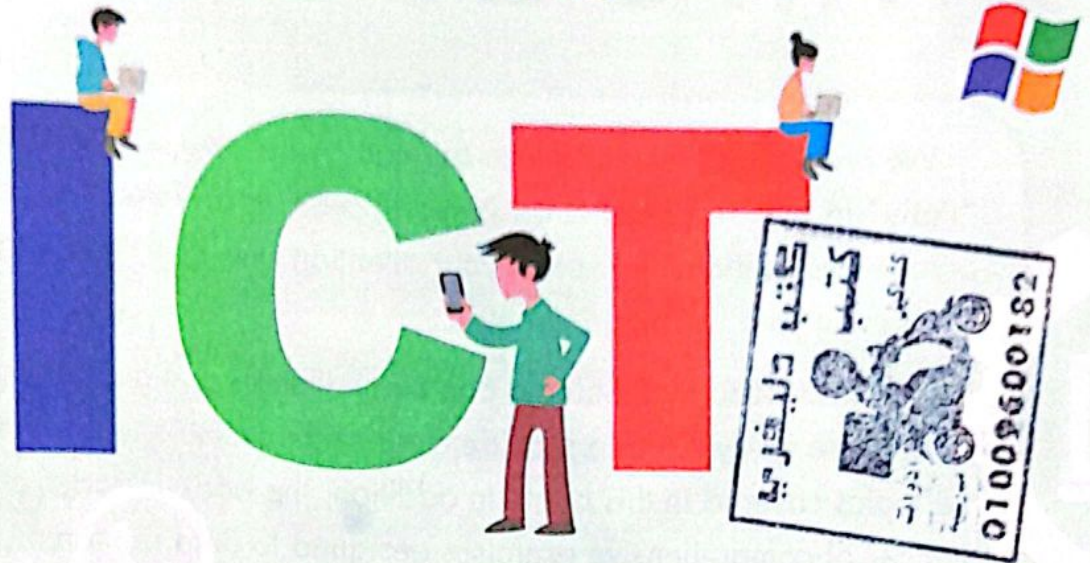


Mr. Ahmed Omara

By

Eng. Osama Youssef

PONY



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Primary
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Introduction

We are delighted to introduce our comprehensive educational series "Pony" in ICT. This book is designed to provide an interesting and attractive style that will capture your attention and keep you engaged throughout your learning journey.

We understand that learning can be challenging, which is why we have made every effort to provide clear and concise explanations of the topics covered in this book. In addition, the book includes a large number of comprehensive exercises designed to help reinforce your understanding of the concepts presented.

We have also taken great care to provide explanatory information for some of the more ambiguous points in the subject matter. We understand that some concepts may be difficult to grasp, and we have made every effort to provide clear explanations and examples to help you understand these points.

Overall, we hope that this book will help you develop a strong foundation in ICT and explore its exciting world.

We hope that you find this book informative, engaging, and enjoyable to read.

Author,
Eng. Osama Youssef



متواجدين في كافة محافظات جمهورية مصر العربية

f www.facebook.com/elostazpony



www.youtube.com/channel/UCCxsZyTUBHkLR3KlsoYD7A



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لا يجوز أبداً إعادة إنتاج أي جزء من هذا العمل ولا حفظه بأي صورة من صور
الحفظ والتخزين ولا نقله بأي شكل أو أي وسيلة سواء أكانت ميكانيكية
أو إلكترونية أو نسخاً أو تسجيلاً دون إذن كتابي سابق من الناشر.

كل الحقوق
محفوظة

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The Role of ICT in Our Lives



- Lesson 1 Explorer in Action
- Lesson 2 The Evolution of Technology
- Lesson 3 Components of Computer Systems
- Lesson 4 Software and Operating Systems
- Lesson 5 Supporting People of Determination
- Lesson 6 Common ICT Problems and Solutions
- Lesson 7 Collecting, Analyzing, and Graphing Data
- Lesson 8 Reporting Findings

Scope and Sequence

Theme

1

The Role of ICT in Our Lives

Essential Question: How can we use technology effectively?



Lesson	Topics	Skills Integration		
		Life Skills	Values	Issues and Challenges
LESSON 1 Explorer in Action	- How archaeologists use ICT in their jobs and daily life. - Technology used to explore the Earth.	Learning to know: critical thinking; problem solving	Academic values: appreciation of science and scientists	Issues of globalization: technological awareness
LESSON 2 The Evolution of Technology	- The history of ICT. - How technology is used in our daily life. - Practice of typing skills.	Learning to know: critical thinking; problem solving Learning to be: communication; self-management	Academic values: appreciation of science and scientists; curiosity	Issues of globalization: technological awareness
LESSON 3 Components of Computer Systems	- The main components of computer systems. - Input, output and data - Different types of computer hardware.	Learning to do: collaboration Learning to know: creativity; problem solving	Academic values: perseverance	Issues of globalization: digital citizenship
LESSON 4 Software and Operating Systems	- Operating systems and software. - How a computer communicates.	Learning to be: communication Learning to know: creativity	Work values: collaboration	Issues of globalization: technological awareness
LESSON 5 Supporting People of Determination	- Assistive technology. - How technology can improve the lives of people of determination.	Learning to know: creativity Learning to live together: empathy; respect for diversity	Co-existence values: respect; tolerance and acceptance	Non-discrimination issues: discrimination against people with special needs
LESSON 6 Common ICT Problems and Solutions	- Common ICT problems. - Solutions to common ICT problems.	Learning to know: creativity; problem solving		Issues of globalization: technological awareness
LESSON 7 Collecting, Analyzing, and Graphing Data	- Digital tools to organize data. - Collecting, analyzing and graphing data.	Learning to be: communication Learning to live together: participation	Academic values: objectivity	
LESSON 8 Reporting Findings	Different ways to communicate electronically.	Learning to be: communication Learning to know: creativity; critical thinking	Co-existence values: participation	Issues of globalization: entrepreneurship

Spotlight on Theme

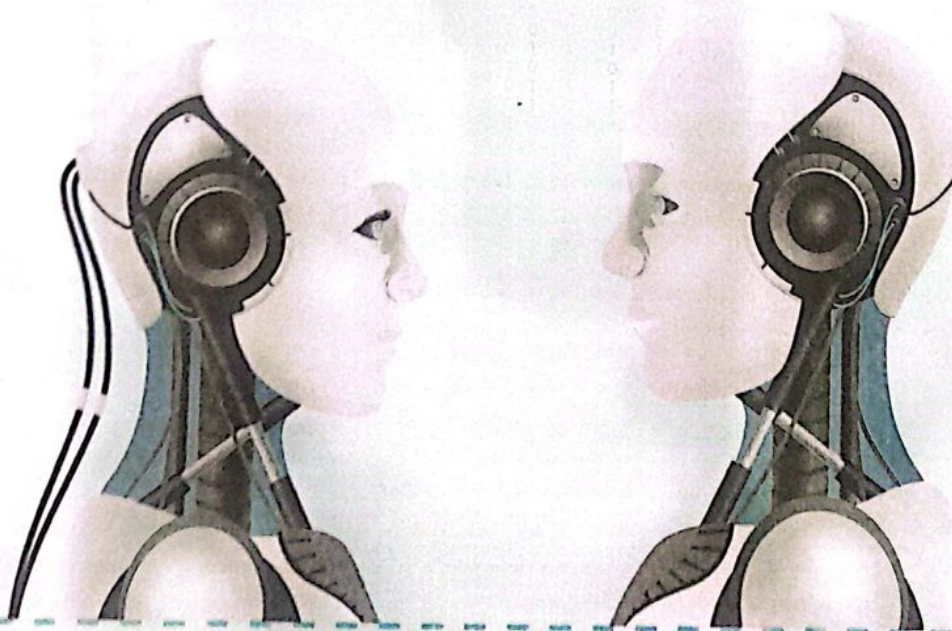
1

There are many different kinds of technology that can help us in our daily lives.

But the question is, "How can we use technology effectively?"

In this theme, you will learn about the evolution of technology, the components of computer systems and how technology can help people with determination.

You will also find out how explorers and archaeologists use technology to collect, analyze, and report their findings.



Albert Lin

- » Albert Lin is an **archaeologist**.
- » He uses different tools to explore archaeological sites without digging.

« ألبرت لين عالم آثار - يستخدم أدوات مختلفة لاستكشاف المواقع الأثرية دون حفر.

**The Importance of Archaeological Tools**

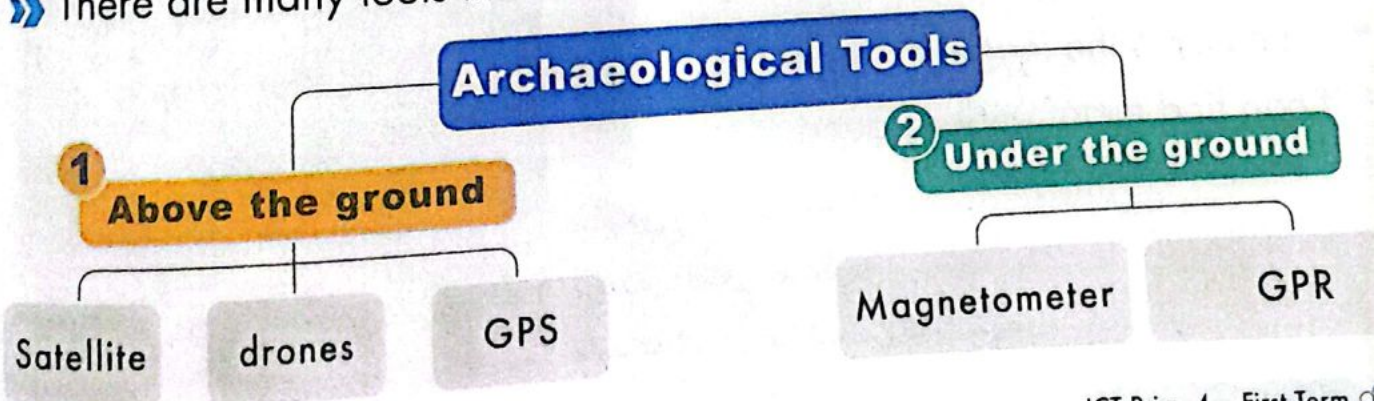
- 1 These tools are useful because sometimes archaeologists cannot dig.
- 2 These tools can save time, money, and effort.

١ - هذه الأدوات مفيدة لأن علماء الآثار في بعض الأحيان لا يستطيعون الحفر.
٢ - يمكن لهذه الأدوات توفير الوقت والتكلفة والجهد.

- » Archaeologists need to know where to dig. So they do a survey **above** ground.
- « يحتاج علماء الآثار إلى معرفة مكان الحفر؛ لذلك يقومون بإجراء مسح فوق سطح الأرض.

Archaeological Tools

- » There are many tools that Albert Lin can use:



1 The first stage (Above the Ground)

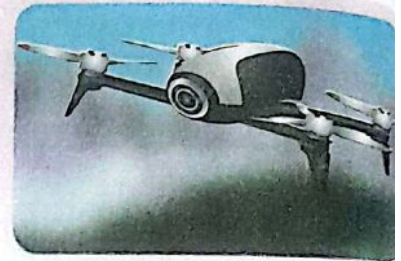
1 Satellites:

- They are used to take photographs of the Earth from above.
- تستخدم الأقمار الصناعية للحصول على معلومات وصور للأرض من أعلى.



2 Drones:

- They are used to take photographs of the Earth from above.
- تستخدم الطائرات بدون طيار للحصول على معلومات وصور للأرض من أعلى.



3 Global Positioning System (GPS):

- It is used to find the location of something using satellites.
- يستخدم للعثور على موقع الجسم باستخدام الأقمار الصناعية.



2 The second stage (Under the Ground)

- » Once Albert Lin finds something, he can search under the ground.
- » To do this, he can use the following tools:

« وحينما يعثر على شيء، فإنه يبدأ بالبحث تحت الأرض، وللقيام بذلك يستخدم الأدوات التالية:

1 Magnetometer:

- It measures the magnetic field.
- It can find metal underground.

مقياس المغناطيسية:

- يقيس المجال المغناطيسي.
- يمكنه العثور على المعادن تحت الأرض.



② Ground Penetrating Radar (GPR):

- It can discover objects buried underground.

الرادار المخترق للأرض (GPR):

- يمكنه اكتشاف الأشياء المدفونة تحت الأرض.



» There are some tools archaeologists use to explore the Earth:

- ① Magnetometer
- ② Ground penetrating radar (GPR)
- ③ Global positioning system (GPS)



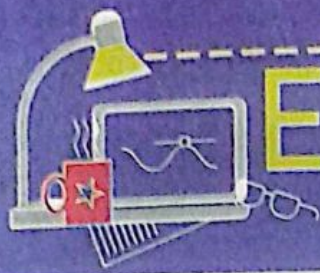
Explanatory



Information

معلومات توضيحية إضافية خارج الكتاب المدرسي

- Both **magnetometers** and **GPR** can be used to discover buried objects under the Earth, but they work in different ways.
- Magnetometers** measure changes in the Earth's magnetic field and can detect abnormalities caused by past human activities.
- GPR** sends short pulses into the ground and records the time of reflections from any buried objects. This allows it to estimate the **depth** of buried objects.



Exercises on Lesson 1

1 Choose the correct answer:

- 1 Albert Lin is a/an that uses modern technology to explore archaeological sites without digging.
a. doctor b. teacher c. archaeologist
- 2 Archaeologists need to know where to dig. So they do a survey the ground.
a. above b. under c. both of them
- 3 is/are used to get pictures of any region from above.
a. GPS b. Magnetometer c. Drones
- 4 The enables us to identify objects buried underground.
a. GPR b. GPS c. GPA
- 5 The GPS in your mobile is connected to to determine locations.
a. rockets b. spacecrafts c. satellites
- 6 is/are one of the archaeological tools used to take photographs of the Earth from above.
a. GPS b. Satellites c. GPR
- 7 is an archaeological tool that is used to measure the magnetic field underground.
a. GPR b. GPS c. A magnetometer
- 8 is used to find minerals in the ground.
a. A magnetometer b. A drone c. GPR
- 9 Archaeologists use the ground penetrating radar to
a. locate objects above the ground
b. explore objects under the ground
c. determine the direction of any location

محافظة بور سعيد - إدارة شمال 2023

- 10 If your friend sent you a WhatsApp message containing their location, this means that he uses the
- ground penetrating radar (GPR)
 - global positioning system (GPS)
 - magnetometer
- 11 What is the first step taken by the archaeologist to explore any new location?
- He uses drones to search for things above the ground.
 - He uses GPR to discover objects underground.
 - He uses a magnetometer to determine the location.
- 12 The archaeological tools help archaeologists to
- determine the location of the supermarket
 - decide where they can dig
 - communicate with their friends

2 Put (✓) or (X):

- Albert Lin is a technologist. ()
- Archaeological tools save time, money, and effort for archaeologists. ()
- The magnetometer is used to determine places via satellites. ()
(محافظة الجيزة - إدارة الشيخ زايد - 2023)
- Tourists can use GPS to determine locations while traveling. ()
- The archaeological tools help tourists decide where to dig. ()
- The taxi driver relies on the GPS device. ()
(محافظة المنوفية - إدارة قويسنا - 2023)
- The global positioning system (GPS) is used to locate things underground. ()
- The magnetometer is used to determine directions via satellites. ()
- Ground penetrating radar is used to discover objects buried underground. ()

(محافظة الإسكندرية - إدارة المنتزه - نموذج 1) 2023

- 10 Drones are used to get pictures of objects above the ground. ()
(محافظة الدقهلية - إدارة طلخا 2023)
- 11 A magnetometer is used to measure the magnetic field underground. ()
- 12 Archaeologists use the ground penetrating radar to find objects above the ground. ()
- 13 GPS is connected to satellites to help you find places you want to visit. ()
- 14 A magnetometer is used to discover metals underground. ()
(محافظة الإسكندرية - إدارة العجمي 2023)
- 15 Archaeologists use tools, such as GPS, GPR, and magnetometer to explore the Earth. ()

3 Choose from column (A) what suits it in column (B):

Column (A)	Column (B)
1 Magnetometer	a. enables us to get images of objects above the ground.
2 GPS	b. enables us to discover minerals underground.
3 GPR	c. enables us to know the location of any place we want to visit.
4 Drone	d. enables us to discover objects buried underground.

1 2 3 4

4 Read and complete:

Read the scenarios below. Decide which tools could be used for each scenario.

- 1 You want to see if there are any old coins buried underground.

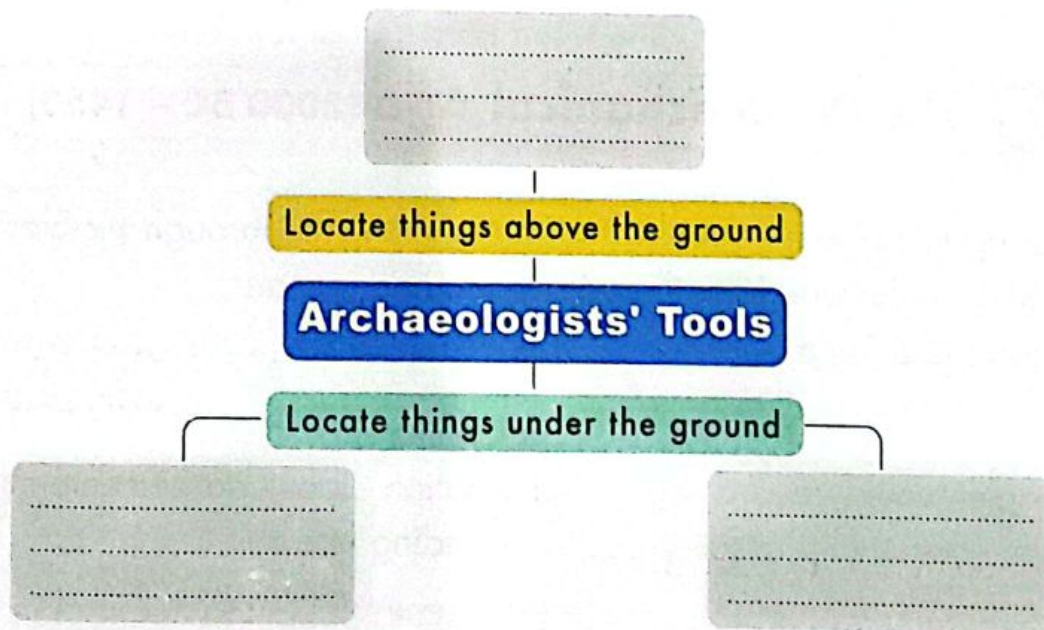
- 2 You receive a message from your friend who is lost and you want to try to find him.

- 3 You want to find out if there are any old buildings under the ground.

5 **Read and complete:**

Which tools help archaeologists locate things above the ground?
Which tools help archaeologists locate things below the ground?

(GPS – Ground penetrating radar – Magnetometer)



- » Technology has come a long way! Look at the time line to know what happened in each age of technology.

Age of Technology	Dates
1 The Pre-Mechanical Age	3000 BC – 1450
2 The Mechanical Age	1450 – 1840
3 The Electro-Mechanical Age	1840 – 1940
4 The Electronic Age	1940 – present

1 The Pre-Mechanical Age (3000 BC – 1450)

- » During this age, people started to communicate through **pictures** like **hieroglyphics** and later through **words** and **numbers**.

« خلال هذا العصر، بدأ الناس في التواصل من خلال الصور (مثل الهيروغليفية) ثم لاحقاً أصبح التواصل بالكلمات والأرقام.

- » People would record lots of information about agreements made. These documents are key to understanding history.

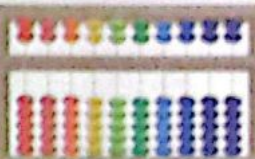
« كان الناس يسجلون الكثير من المعلومات حول الاتفاقيات المبرمة. هذه الوثائق هي مفتاح فهم التاريخ.

Many of these documents are available online and on The Egyptian Knowledge Bank (EKB).



Egyptian Knowledge Bank
بنك المعرفة المصري

Some inventions of this age include:

Pens and pencils	Papers	Manuscripts (parchment)	Abacus counter
			
أقلام الحبر والأقلام الرصاص	الورق	المخطوطات	العداد الرقمى (أباكس)

2

Lesson

2 The Mechanical Age (1450 – 1840)

- » During this age, people recorded a tremendous amount of information. This led to a desire to make it easier to **record** and **share**.
- » There was a **technology explosion**!
- » Some inventions of this age include:
 - 1 The **printing process**: Made it easier to make books.
 - 2 The **Pascaline**: It was an early **calculator**.

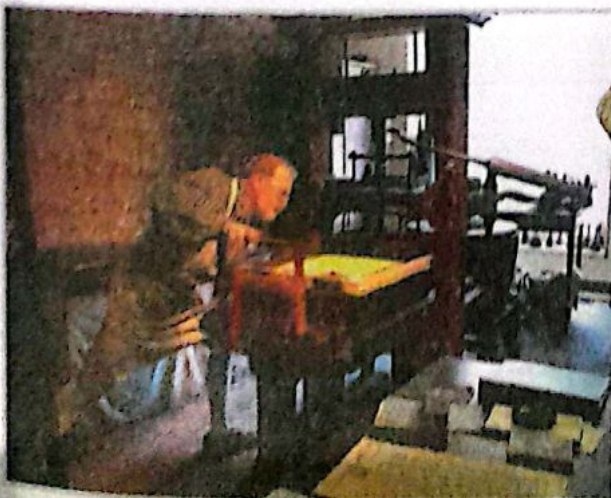
« خلال هذا العصر، سجل الناس قدرًا هائلًا من المعلومات، أدى ذلك إلى الرغبة في تسجيل المزيد من

المعلومات ومشاركتها، ومن هنا بدأت الثورة التكنولوجية!

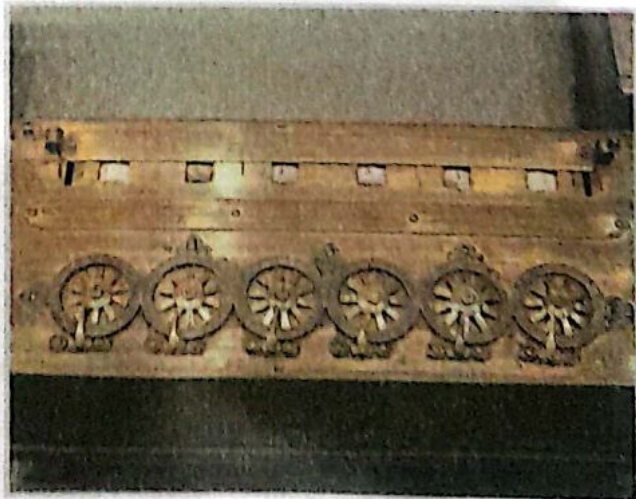
بعض الاختراعات في هذا العصر:

١ - **عملية الطباعة**: أسهمت في تسهيل عملية صناعة الكتب.

٢ - **باسكالين**: هي النسخة الأولى من الآلة الحاسبة.



▲ Printing process



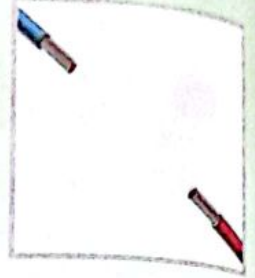
▲ The Pascaline

3 The Electro-Mechanical Age (1840 – 1940)

» This was the beginning of communication as we know it today.

» Some inventions of this age include:

- ① Electricity was used for the first time.
- ② The telephone.
- ③ The first digital computer that was 8 feet high, 50 feet long, 2 feet wide, and weighed 50 tons.



« تعتبر هذه الفترة بداية مرحلة التواصل التي نعرفها اليوم.

بعض اختراعات هذه الفترة:

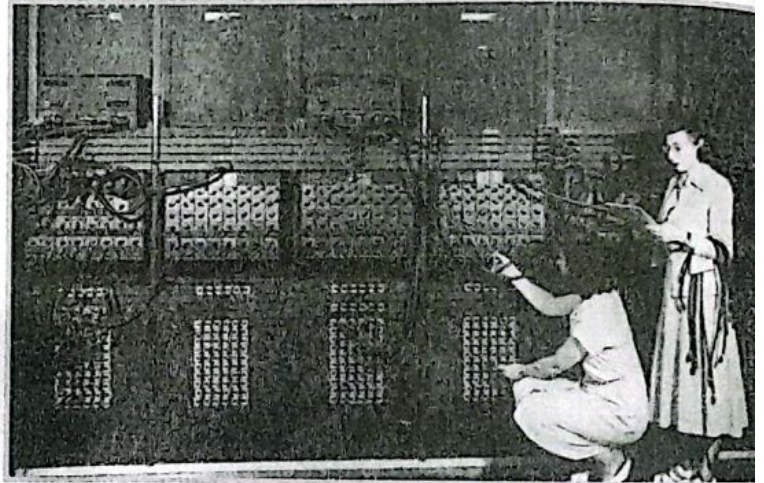
٢ - الهاتف.

١ - الكهرباء، وكان أول استخدام لها في هذا العصر.

٣ - جهاز الكمبيوتر الرقمي الأول، وقد بلغ ارتفاعه ٨ أقدام، وطوله ٥٠ قدمًا، وعرضه قدمين، في حين وصل وزنه إلى ٥٠ طنًا!



▲ Telephone, Telephone lines



▲ First digital computer

Test yourself

Complete:

- ① During age, people communicate through pictures
- ② The first computer appears in the era of
- ③ The is known as "technology revolution" age
- ④ Electricity was used for the first time in the Age.
- ⑤ Was the early version of calculator.

4 The Electronic Age (1940 – present)

- » This is considered the "information explosion age".
- » Inventions and improvements are happening at a fast rate.
- » Some inventions of this age include:

- ① Personal computers (PCs), laptops, and cell phones: They help us communicate with people around the world using email and instant messages.
- ② Satellites and GPS: They help us locate things.

« تُعرف هذه الفترة بعصر «الثورة المعلوماتية» حيث شهدت ظهور اختراعات وإنجازات بسرعة مذهلة. بعض اختراعات هذا العصر:

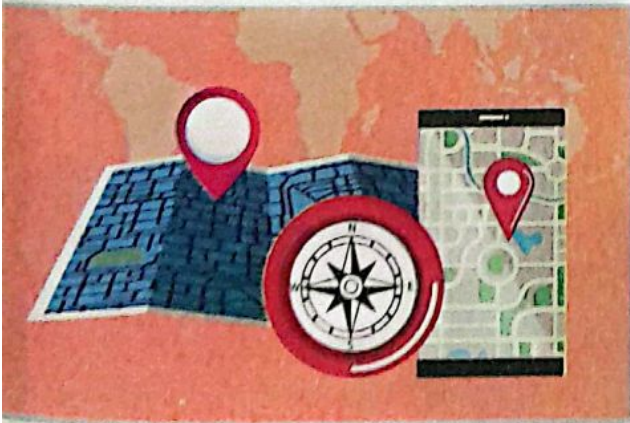
- ١ - أجهزة الكمبيوتر الشخصي وأجهزة الكمبيوتر المحمولة والهواتف المحمولة: حيث تساعدنا في التواصل مع الأشخاص حول العالم باستخدام البريد الإلكتروني والرسائل الفورية.
- ٢ - الأقمار الصناعية ونظام تحديد المواقع: ومن شأن هذه الاختراعات مساعدتنا على تحديد مواقع الأشياء.



▲ Laptops



▲ Satellites



▲ GPS



▲ Smart phones



Exercises on Lesson 2

1 Choose the correct answer:

- 1 During the Age, people communicate through pictures.
a. Mechanical b. Electro-Mechanical c. Pre-Mechanical
 - 2 Early ancient people communicated together using
a. letters b. drawings c. codes
 - 3 Fixed phones were invented in the Age.
a. Electronic b. Electro-Mechanical c. Mechanical
 - 4 appeared during the mechanical revolution age.
a. Pascaline b. Laptops c. Satellites
- (محافظة المنوفية – إدارة السادات 2023)
- 5 The Age is known as "technology revolution age".
a. Mechanical b. Electro-Mechanical c. Electronic
 - 6 The beginning of communication as we know it today started in the Age.
a. Mechanical b. Electro-Mechanical c. Electronic
 - 7 appeared before the mechanical revolution age, while the appeared after it.
a. Pencils – Pascaline
b. The abacus – telephone
c. The typewriter – mobile
 - 8 The era of the electronic revolution is characterized by the invention of
a. laptops b. typewriters c. telephones
- (محافظة القاهرة – إدارة عابدين 2022)
- 9 The Age is known as "information explosion age".
a. Mechanical b. Electro-Mechanical c. Electronic

- 10 The Pascaline machine is the first version of a
 a. calculator b. printer c. typewriter
- 11 Electricity was used for the first time in the Age.
 a. Mechanical b. Electro-Mechanical c. Electronic
- 12 is used as a way of communication in modern times.
 a. The pencil b. The abacus c. Email
- 13 The printing process for books started to appear in the Age.
 a. Electro-Mechanical b. Mechanical c. Electronic
- 14 is used as a means of communication in modern times.
 a. Email b. The pencil c. The pen
- (محافظة الشرقية – إدارة ههيا 2023)
- 15 The first digital computer was invented in the Age.
 a. Electronic b. Mechanical c. Electro-Mechanical
- 16 The timeline of the technological evolution is
 a. words -pens -typewriter b. typewriter- pens- words
 c. pens- typewriter- phone

2 Put (✓) or (X):

- 1 The first computer was discovered in the are of mechanical revolution. ()
 (إدارة الغردقة التعليمية- 2023)
- 2 Ancient people communicated first using pictures, then using words and numbers. ()
- 3 The abacus counter is one of the machines used in modern times.()
- 4 The Pascaline is an example of technology in the Pre-Mechanical Age. ()
- 5 Personal computers were invented in the Pre-Mechanical Age. ()
- 6 Pens, papers, and typewriters were used in the Pre-Mechanical Age.()
- 7 Books began to appear in the mechanical revolution era. ()

- 8 Inventions and improvements are happening at a fast rate in the Mechanical Age. ()
- 9 Electricity was used for the first time in the Electro-Mechanical Age. ()
(محافظة الجيزة - إدارة 6 أكتوبر - 2023)
- 10 The information age extends to our present age. ()
- 11 The first computers were light and easy to move. ()
- 12 Electricity, telephones, and the first computer appeared in the Electro-Mechanical Age. ()

3 Cross out the odd word:

- 1 Pencils – Pascaline – Abacus – Manuscripts (.....)
- 2 Typewriter – Printing machines – Record player (.....)
- 3 First computer – Laptop – Telephone (.....)
- 4 Satellites – GPS – Online map – Telephone (.....)

4 Complete the table with the information from each box.

The Electronic Age
The Electro-Mechanical Age
The Mechanical Age
The Pre-Mechanical Age

- a. Printing machine, calculator, typewriter
b. Satellite, smartphone, online maps, word processor
c. Pens, pencils, parchment, paper, abacus
d. Telephone, telephone lines, record player

Column (A) Dates	Column (B) Age	Column (C) Inventions
1 3000 BC – 1450	The Pre-Mechanical Age	
2 1450 – 1840		
3 1840 – 1940		
4 1940 – present		

The computer

- It is an electronic device used for processing data.

هو جهاز إلكتروني يعمل كمعالج للبيانات.



» Computers can store, restore, and process information.

« الكمبيوتر يمكنه تخزين المعلومات واستعادتها ومعالجتها.

The importance of the computer

» Computers can be used to do the following:

- 1 Write documents
- 2 Send emails
- 3 Play games
- 4 Browse the internet
- 5 Create or edit data tables, PowerPoint presentations, and videos.

« استخدامات الكمبيوتر:

- ١ - كتابة المستندات.
- ٢ - إرسال بريد إلكتروني.
- ٣ - ممارسة ألعاب الفيديو جيم.
- ٤ - تصفح الإنترنت.
- ٥ - إنشاء أو تعديل جداول البيانات، عروض باوربوينت والفيديوهات.

NOTES:

- 1 The shape of a computer and its components differ according to the device's model and manufacturing data.

يختلف شكل الحاسب ومكوناته حسب موديل الجهاز وتاريخ تصنيعه.

- 2 There are devices that are turned on and used via touch.

هناك أجهزة يتم تشغيلها واستخدامها عن طريق اللمس.



▲ Personal Computer (PC)



▲ Laptop



▲ Tablet



▲ Touch computer

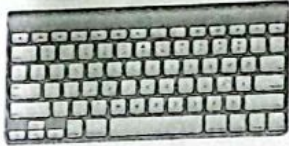
To use your computer, you need:



1 Input Devices

» They are devices that enter data into a computer.

» Examples of input devices:

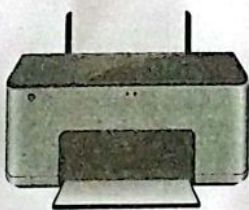
Device	Figure	Function
1 Keyboard		To type letters and numbers into the computer. إدخال الحروف والأرقام على الكمبيوتر.
2 Mouse		To select and move things easily. لتحريك واختيار الأشياء بسهولة.
3 Camera		- To allow others to see you. - To input images or videos into the computer. تسمح للآخرين برؤيتك - تقوم بإدخال صور أو فيديو للكمبيوتر.
4 Microphone		- To allow others to hear you. - To input sound, audio, and music into the computer. يسمح للآخرين بسماعك - يقوم بإدخال صوت وموسيقى إلى الكمبيوتر.
5 Scanner		To input texts and images from paper into the computer. يقوم بإدخال النصوص والصور من الورق إلى الكمبيوتر.

2 Output Devices

Lesson 3

» They are the devices that output information.

» Examples of output devices:

Device	Figure	Function
1 Screen		Shows what you and the computer are doing. تُظهر ما تقوم به وتفعله على الكمبيوتر.
2 Speaker		- To hear others. - To output sound. لسماع الآخرين - لإخراج الصوت من الكمبيوتر.
3 Printer		To output texts or images from your computer on paper. إخراج وطباعة النصوص أو الصور من الكمبيوتر على ورق.
4 Braille terminal		- It allows blind people to use computers. (How?) - It converts text on the screen into Braille characters. يقوم بعرض المعلومات والنصوص المكتوبة بنظام برايل.
5 Speech synthesizer		- It allows non-verbal people to speak. (How?) - It changes text to speech. يساعد الأشخاص الذين يعانون من عدم القدرة على الكلام على التواصل. يقوم هذا الجهاز بتحويل النص المكتوب إلى كلام.

NOTES:

- ① A touch screen can be used as an input device and an output device.
- ② You can prepare your own video or photo album, using one of the applications on your device.
- ③ The most important element of the computer system is **you** (user)!
- ④ Computers are only as good as the data we put in them.
- ⑤ If the user **connects the devices wrong** or **uses them incorrectly** the computer will produce an **error**, so we must be careful while connecting them.

يمكن استخدام شاشة اللمس كوحدة إدخال ووحدة إخراج.
يمكنك إعداد الفيديو الخاص بك أو ألبوم الصور باستخدام أحد التطبيقات الموجودة على جهازك.
أهم عنصر في نظام الكمبيوتر هو أنت (المستخدم).
أجهزة الكمبيوتر تكون جيدة فقط بجودة البيانات التي نضعها فيها.
إذا قام المستخدم بتوصيل الأجهزة بشكل خاطئ، أو استخدامها بشكل غير صحيح فسوف يحدث عطل للكمبيوتر؛ لذلك يجب أن نكون حذرين أثناء توصيل تلك الأجهزة.



Explanatory



Information

Why

معلومات توضيحية إضافية خارج الكتاب المدرسي

The most important element of the computer system is You (the user).



The user provides the input and instructions that the computer needs to perform tasks. The user also decides how to organize and manage data, which programs to use, and how to solve problems. Without the user, the computer would just be a collection of hardware and software with no purpose.



Exercises

on Lesson 2

1 Choose the correct answer:

- 1 The computer is an electronic device that is used for
a. processing data b. writing documents c. both of them
- 2 is considered one of the hardware components of a computer.
a. PowerPoint b. The browser c. The CPU
- 3 The computer's shape depends on the following, except
a. model b. the manufacture date
c. software
- 4 are devices that are used to enter data into a computer,
a. Input devices b. Output devices c. CPU
- 5 The is one of the input devices on the computer.
a. speaker b. printer c. scanner
- 6 The component responsible for entering data into a computer is the
a. keyboard b. CPU c. printer
- 7 are input devices of the computer.
a. The keyboard, mouse, and speaker
b. The camera, scanner, and microphone
c. The touch screen, speaker, and printer
- 8 are devices that output information from a computer.
a. Input devices b. Output devices c. Documents
- 9 All the following are from input devices on the computer component except the
a. screen b. microphone c. keyboard
- 10 The is a device that allows non-speakers to speak.
a. scanner b. printer c. speech synthesizer

(محافظة الإسكندرية - إدارة المناظرة 1 (نموذج 1) 2023)

(محافظة كفر الشيخ - إدارة كفر الشيخ 2023)

(محافظة الغربية - إدارة المحلة غرب 2023)

11 The screen is considered an device, while the camera is considered an device.

- a. output – output b. output – input c. input – input

12 One of the attached devices that is used during video calls is the

- a. printer b. scanner c. camera

محافظة الإسكندرية - إدارة المنتزه 2 - (نموذج 1) 2023

13 allows blind people to use computer.

- a. Speech synthesizer b. Braille terminal c. The keyboard

14 The is used to enter papers and photos into your computer.

- a. scanner b. display screen c. printer

15 The is used to output texts and images on paper.

- a. Screen b. scanner c. printer

16 One of the devices that is used for writing/typing is the

- a. speaker b. mouse c. keyboard

17 The speech synthesizer is a type of

- a. input device b. output device d. printing device

محافظة الدقهلية - منية النصر 2023

18 The enables us to output sound.

- a. mouse b. speaker c. microphone

19 The is used to select, insert, or drag a file on the computer.

- a. mouse b. printer c. scanner

20 The allows you to enter sound into your computer.

- a. speech synthesizer b. speaker c. microphone

21 To hear others through the internet, you should have a/an

- a. microphone b. speaker c. camera

22 The most important element of the computer system is the

- a. mouse b. user c. CPU

2 Put (✓) or (X):

- 1 A computer is used to create and edit spreadsheets and presentations. ()
(محافظة الإسكندرية - إدارة المنتزه 1 - نموذج 1) (2023)
- 2 Input devices in computers work on processing data. ()
- 3 The keyboard is a device that is used to output data. ()
(محافظة الشرقية - إدارة ههيا 2023)
- 4 Non-verbal people use speech synthesizers to communicate using the computer. ()
- 5 The scanner is used to print images from the computer on paper. ()
(محافظة الشرقية - إدارة ههيا 2023)
- 6 We use scanners to transfer texts and images from paper to our computer. ()
- 7 A laptop is bigger than a personal computer. ()
- 8 Braille terminals and speech synthesizers help people with determination to use computers. ()
- 9 The most important element of the computer system is you. ()
- 10 The microphone is very important to hear audio or video. ()

3 Complete the following sentences using the words between the brackets:

(scanner - screen - speaker - camera - keyboard - microphone)

- 1 A enables you to enter your photo at the present.
- 2 A enables you to enter the sound into the computer.
- 3 A enables you to write letters and numbers.
- 4 A displays information (texts, photos & videos).
- 5 A is used to input texts and images from paper into the computer.
- 6 A is used to output audio data.

4 Cross out the odd word:

- 1 Keyboard - Printer - Camera - Scanner (.....)
- 2 Touch screen - Speaker - Microphone - Screen (.....)
- 3 Speech synthesizer - Braille terminal - Scanner (.....)

5 Classify these words into input or output devices:

(Speech synthesizer - Touch screen - Speaker - Camera - Keyboard - Printer)

Input Devices	Output Devices
.....	
.....	
.....	

6 Choose from column (A) what suits it in column (B):

Column (A)	Column (B)
Hardware	Function
1 Keyboards	a. output audio data.
2 Speakers	b. view visual data as images.
3 Screens	c. output texts and images.
4 Printers	d. input letters and numbers.

1 2 3 4

7 Label the components of the computer with the words in the box:

(Keyboard - Mouse - Printer - Scanner - Screen - Speaker)



1 2 3
4 5 6

8



What is the function of each component of the computer above? Complete the chart:

Functions	Components
1 Allows interaction with, and selection of, information.	
2 Displays visual data: texts, images, and videos.	
3 Allows input of images.	
4 Allows input of text.	
5 Allows input of text and images from paper.	
6 Allows output of text and images on paper.	
7 Allows input of audio.	
8 Allows output of audio.	

9



Read and complete:

Devices can also include components to help people of determination. Read the descriptions below and write the name of the component.

Then answer the question.

- 1 This component allows blind people to use computers.

.....

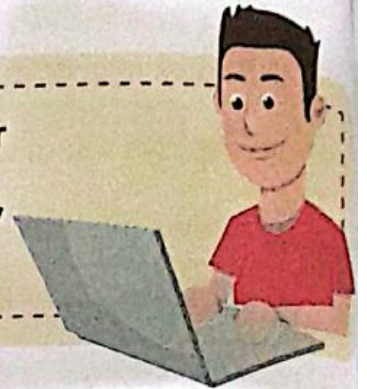
.....

- 2 This component allows non-verbal people to speak.

.....

.....

» Imagine you want to write a report for school. Once you log on to the computer, what do you do?



- 1 You might open a word-processing program like Microsoft Word.
- 2 Microsoft Word tells the computer's operating system (like Windows), to access the program and open it.
- » But that is only what you see happening. There is another key step that you do not see.

نحن نستطيع أن نرى ما نكتبه على الشاشة، ولكن هناك خطوة رئيسية أخرى تحدث لا يمكن رؤيتها.

- 3 The operating system talks to the Central Processing Unit (CPU).
- 4 The CPU controls what and how data is processed.

» This means that:

- As you type, Microsoft Word tells the operating system.
- Then, the operating system asks the CPU to show this information on the screen.

• بينما تكتب، فإن البرنامج الذي تستخدمه (MS Word) يرسل رسالة إلى نظام تشغيل الكمبيوتر، يوضح له ما تقوم بفعله (الكتابة).

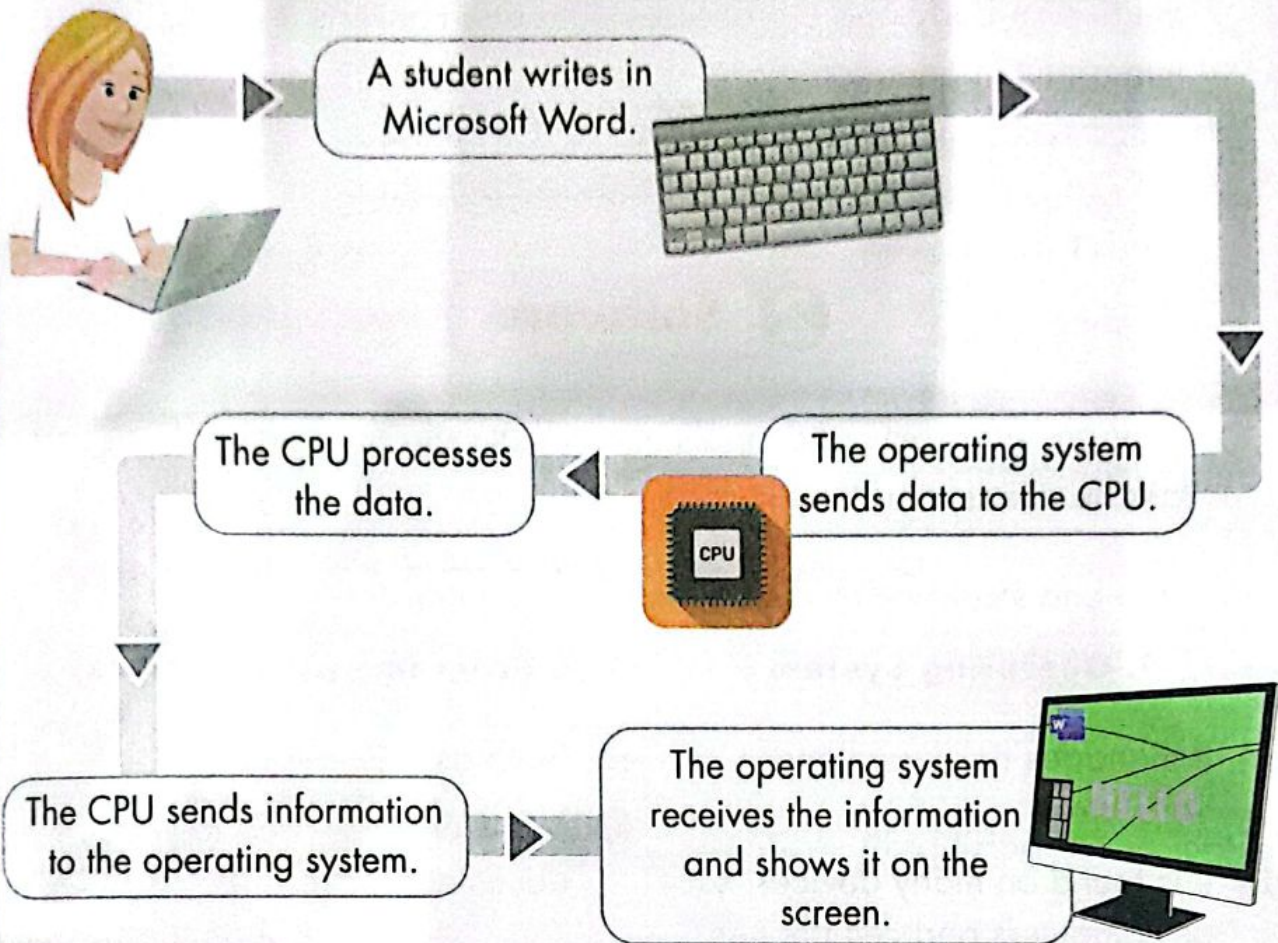
• فيطلب نظام التشغيل من (CPU) إظهار المعلومات التي تكتبها على الشاشة.



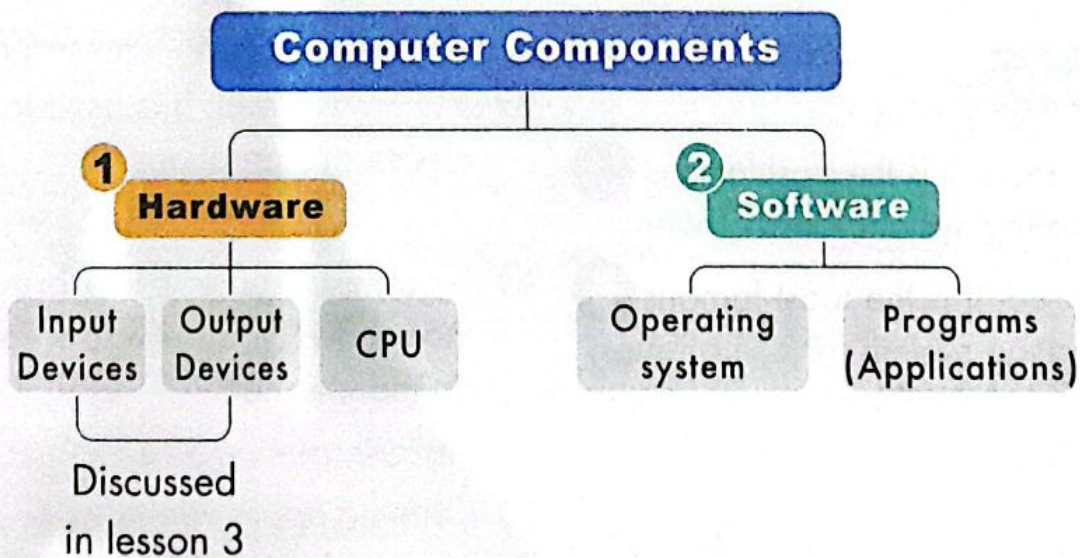
» Remember to save your work regularly.

- If the program has a problem before the operating system tells the CPU to save everything, you can **lose** your work.

The diagram below shows how data is processed in Microsoft Word

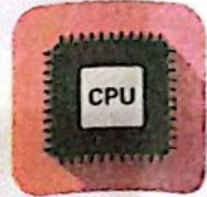


» From the previous explanation, we can conclude that:



1 CPU

- » The Central Processing Unit (CPU) is like the brain in the human body and it processes data and converts it into useful information.



« وحدة المعالجة المركزية كالعقل في جسم الإنسان وهي تقوم بمعالجة البيانات وتحويلها إلى معلومات مفيدة.

2 Software

- » They are programs and applications that help the user perform any task he needs, and they include:

« هي برامج وتطبيقات تساعد المستخدم على أداء أي مهمة يحتاجها، وهي تشمل:

1. Operating System

- » It manages hardware and software.
- » It is found on many devices, such as computers and cell phones.

« يدير الأجهزة والبرامج.

« يوجد في العديد من الأجهزة مثل أجهزة الكمبيوتر والهواتف المحمولة.

Examples:

- Windows: It is the most famous operating system for computers. 
- Android: It is the most famous operating system for cell phones. 

2. Programs (Applications)

- » Such as:

① MS Word: It is used to write documents or reports. 
يستخدم لكتابة وثائق أو تقارير.

② MS Excel: It is used to create tables and graphs. 
يستخدم لإنشاء الجداول والرسوم البيانية.

③ MS PowerPoint: It is used to create presentations. 
يستخدم لعمل العروض التقديمية.

④ Google Chrome: It is a browser that allows you browse websites on the internet. 
هو متصفح يسمح لك بتصفح مواقع الويب.

⑤ Gaming applications: 
تطبيقات الألعاب



Exercises

on Lesson

4

1 Choose the correct answer:

1 The sends data to the CPU, which then receives it in the form of information.

- a. operating system b. browser c. keyboard

2 is considered software on the personal computer.

- a. The keyboard b. MS Excel c. The printer

(محافظة الشرقية – إدارة ههيا 2023)

3 The is responsible for managing both hardware and software.

- a. CPU b. operating system c. keyboard

4 The is considered one of the hardware components of a computer.

- a. MS PowerPoint b. browser c. CPU

(محافظة الإسكندرية – إدارة المنتزه 1 – نموذج 1) 2023

5 Operating system is a /an

- a. input device b. software c. hardware

6 To access websites online, you can use

- a. MS Excel b. MS Word c. a browser

7 Windows and Android are considered

- a. applications b. input devices c. operating systems

8 Information is considered the processing product of

- a. data b. digital blogs c. email

(محافظة أسيوط – إدارة أسيوط التعليمية 2023)

9 Word, Excel, and PowerPoint are considered

- a. applications b. input devices c. operating systems

- 10 can be an effective tool to present material in the classroom,
 a. MS Excel b. MS PowerPoint c. Google Chrome

- 11 What is the program used to write a CV (resume)?
 a. Screen magnification b. Word program
 c. Speech synthesizer

محافظة الإسكندرية - إدارة المنتزه 2 - (نموذج 1) 2023

- 12 All the following are operating systems that enable you to use your device, except

a. Windows b. email c. Android

- 13 The operating system sends to the CPU to be processed.
 a. data b. information c. neither of them

- 14 A program that creates a slideshow is called

a. MS Word b. MS PowerPoint c. MS Excel

محافظة الإسكندرية - إدارة شرق 2023

- 15 The function of the central processing unit (CPU) is to

a. change information to useful data
 b. change bad information to useful information
 c. change data to useful information

2 Put (✓) or (X):

- 1 The central processing unit (CPU) is a type of software. ()

محافظة الشرقية - إدارة ههيا 2023

- 2 Microsoft PowerPoint helps you present information in creative ways. ()

- 3 Google is the most famous operating system. ()

محافظة الجيزة - إدارة الهرم 2023

- 4 Word processing software is a type of device. ()

- 5 The operating system is considered software, while the CPU is considered a hardware component. ()

6 The operating system is not necessary to deal with the computer. ()

(محافظة الشرفية - إدارة هببا 2023)

7 Android is one of the most famous operating systems. ()

8 The personal computer converts information into data. ()

9 When you work on a computer, you should save your work regularly. ()

10 A screen and keyboard help you operate your personal computer. ()

11 The screen helps in processing data. ()

(محافظة كفر الشيخ - إدارة كفر الشيخ 2023)

12 Google Chrome enables you to download any file from any website offline. ()

13 The CPU sends data to the operating system to be processed. ()

3 Arrange the following stages:

1 The operating system sends the image data to the CPU. ()

2 The CPU converts data into information. ()

3 The student places an image in Microsoft PowerPoint. ()

4 It displays it on the screen. ()

5 The CPU is processing the image data. ()

6 The CPU sends information to the operating system. ()

7 The operating system receives information. ()

4 Complete the following diagram using the words in the box:

(Data - Output device - Input device - CPU - Information)



5 Look and complete:

Write the words from the box in the correct column.

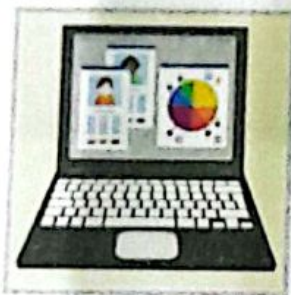
(CPU - Gaming apps - Google Chrome™ browser - Keyboard
PowerPoint® - Microsoft Word® - Screen - Windows®)

Hardware	Operating Systems	Application Software

6 Read the steps and match them to the image. Write the letter:



a



b



c



d

- 1 You open the program and start typing. (
- 2 The program receives the data and tells the operating system to interpret it. (
- 3 The CPU receives the data from the operating system and processes it. (
- 4 After the operating system sends the information to the program, the program puts the information on the screen. (

Assistive Technology

A special kind of technology that helps people of determination with tasks that they find difficult to do.

نوع خاص من التكنولوجيا يساعد أصحاب الهمم في المهام التي يجدون صعوبة في القيام بها.

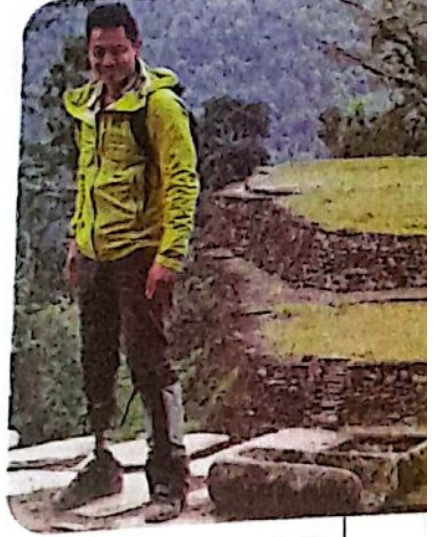
Albert Lin

» Albert Lin has a limb difference, but he doesn't let that stop him from exploring many places around the world.

« لدى ألبرت لين اختلاف في أطرافه (رجل مبتورة) ولكن هذا لم يمنعه من استكشاف العديد من الأماكن حول العالم.

» Albert Lin uses a prosthetic leg that enables him to move and explore new places.

« يستخدم ألبرت لين ساقًا صناعية تمكنه من التحرك واستكشاف أماكن جديدة.



Examples of Assistive Technology

Hearing aids

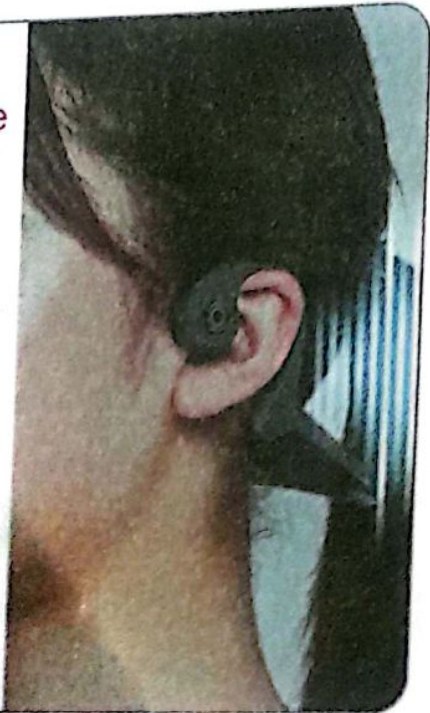
Hearing aids help people who have trouble hearing.

Hearing aids can be connected to mobile devices. Many of them come with smartphone apps that allow users to adjust their hearing aids using their phones.

« يساعد الأشخاص الذين يعانون من مشاكل في السمع.

« يمكن توصيلها بالهاتف المحمول.

« الكثير منها يأتي معه تطبيقات تتيح للمستخدم التحكم بها من خلال الهاتف المحمول.



2 Screen magnification software

- » This software **enlarges** everything on a computer screen, such as words and images.
- » It allows **people with poor vision (visually impaired)** to interact with computers.

« يُكَبِّر كل شيء على شاشة الكمبيوتر مثل النصوص والصور.
« يسمح للأشخاص ضعاف البصر بالتفاعل مع الكمبيوتر.



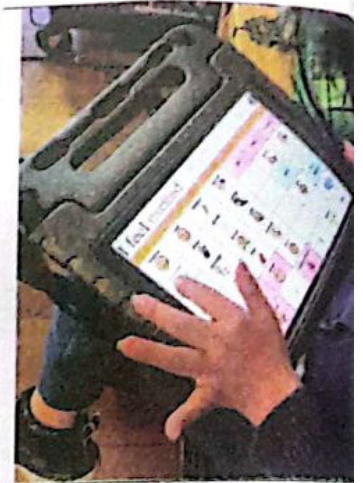
3 Alternate communication software

- » This software helps people with **speech and language disabilities** communicate with others.

Example

- » Computer programs that can turn **text into speech** and **speech into text**.

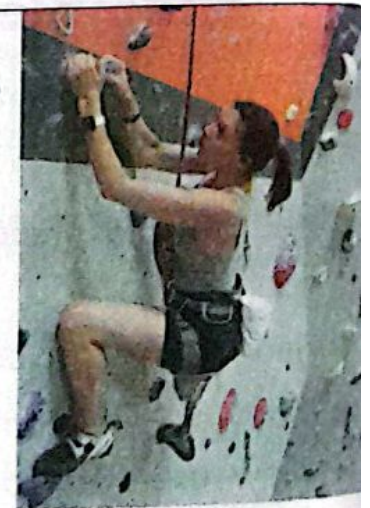
« يساعد الذين يعانون من إعاقة في النطق أو اللغة على التواصل مع الآخرين.
« مثال: يمكن لبعض برامج الكمبيوتر تحويل نص مكتوب إلى كلام، والعكس.



4 Sporting tools

- a. **Paraclimbing tools:** They allow climbers with **limb differences** to climb mountains, so **assistive technology** can help with **ordinary and extraordinary activities!**

• أدوات التسلق: تتيح للمتسلقين - الذين فقدوا أحد أطرافهم - تسلق الجبال، وبالتالي يمكن للتكنولوجيا المساعدة أن تساعد في القيام بالأنشطة العادية والاستثنائية.



- b. **Football that make noise:** It can be useful for **visually impaired people**. The noise can help them locate the ball and follow its movement.

• كرات القدم التي تصدر صوتاً: يمكن أن تكون مفيدة للأشخاص المعاقين بصرياً؛ حيث يمكن أن يساعدهم الصوت في تحديد موقع الكرة ومتابعة حركتها.

- c. A bike that has 3 wheels and is powered by hands: It is useful for people who have limb differences or mobility issues to participate in physical activities.



• الدراجة ذات العجلات الثلاث والتي تعمل باليد : تكون مفيدة للأشخاص الذين يعانون من اختلافات في الأطراف أو مشاكل في الحركة ليشتركوا في الأنشطة البدنية.

- d. Running blades: They are prosthetic limbs designed for running and other physical activities. They can be useful for people with amputated legs.

• الأطراف الصناعية المخصصة للجري: هي أطراف صناعية مصممة للجري والأنشطة البدنية الأخرى، ويمكن أن تكون مفيدة للأشخاص الذين بُترت ساقهم.

5 Cell phones with large buttons

- » It can be useful for visually impaired people. The larger buttons make it easier to see and dial phone numbers.



« الهواتف الخلوية ذات الأزرار الكبيرة: يمكن أن تكون مفيدة للأشخاص المعاقين بصرياً؛ حيث الأزرار الكبيرة تكون أسهل في الرؤية وإجراء المكالمات.

6 Motorized wheelchairs

- » It can be useful for people with mobility impairments. They allow them to move around more easily and independently.



« الكراسي المتحركة الكهربائية: يمكن أن تكون مفيدة للأشخاص المعاقين حركياً؛ حيث تسمح لهم بالتحرك بسهولة واستقلالية أكبر.

Stephen Hawking

- » He was a famous physics scientist.
» He used assistive technology, such as:
1. Motorized wheelchair to move around more easily.
2. Speech synthesizer to help him communicate.



« ستيفن هوكينج كان عالماً مشهوراً في الفيزياء.

« كان يستخدم التكنولوجيا المساعدة مثل:

- ١- الكرسي المتحرك الآلي؛ للتنقل بسهولة. ٢- مركب الكلام؛ لمساعدته في التواصل.

Exercises on Lesson 5

Choose the correct answer:

- 1 People who have trouble hearing can use
 a. hearing aids b. screen zoom c. sporting tools
 (محافظة الإسكندرية - إدارة شرق 2023)
- 2 The assistive technology is a type of technology that helps people with
 a. mental problems b. physical injuries c. disabilities
- 3 Albert Lin uses a that enables him to move and explore new places.
 a. wheelchair b. prosthetic leg c. hearing aid
- 4 is software that is used to assist the visually impaired.
 a. Earphones b. Screen enlargement c. Alternative communication software
 (محافظة بورسعيد - إدارة شمال 2023)
- 5 Prosthetic legs and wheelchairs help people with
 a. hearing troubles b. movement disabilities c. poor vision
- 6 Screen magnification software is very important for
 a. blind people b. deaf people c. visually impaired people
- 7 Alternative communication software helps people with disabilities.
 a. speech b. movement c. seeing
- 8 A football that makes noise is useful for
 a. people with hearing troubles
 b. people with movement disabilities
 c. visually impaired people
- 9 is/are prosthetic limbs designed for running to help people with amputated legs.
 a. Braille terminal b. Hearing aids c. Running blades

- 10 Screen magnification software is used to help people who have
 a. hearing impairment b. poor vision c. limb loss

(محافظة الإسكندرية - إدارة المنزه 2 - نموذج 1) 2023

- 11 allow climbers with limb differences to climb mountains.
 a. Running blades b. Paraclimbing tools c. Hearing aids.

- 12 The can change text into audio and vice versa.
 a. speaker b. microphone
 c. alternative communication software

- 13 Stephen Hawking has used to help him communicate.
 a. microphone b. braille terminal c. speech synthesizer

- 14 Screen magnification software enables
 a. showing information b. hearing information c. printing papers

(محافظة الدقهلية - إدارة طلخا التعليمية 2023)

- 15 help people with limb differences to go about their daily lives.
 a. Hearing aids b. Prosthetic legs c. Braille terminal

- 16 Stephen Hawking has used assistive technology, such as a
 to move around more easily.
 a. running blades b. motorized wheelchair c. speech synthesizer

- 17 A handbike that has 3 wheels is useful for people who have
 a. trouble hearing b. vision problems c. limb differences

2 Put (✓) or (X):

- 1 Albert Lin uses a prosthetic leg that enables him to talk and. ()

- 2 Assistive technology is a technology that helps people with determination in their daily lives. ()

- 3 Magnification software is an assistive technology. ()

(محافظة سوهاج - الإدارة التعليمية 2023)

- 4 Modern hearing aids can be connected to mobile devices. ()

- 5 Stephen Hawking used a robotic wheelchair that was equipped with a system that enabled him to move and talk. ()

- 6 Screen magnification software helps people with difficulties. ()

(محافظة المنوفية - إدارة السادات التعليمية 2023)

- 7 Assistive technology can help with both ordinary and extraordinary tasks. ()

- 8 People who have trouble hearing can adjust their hearing aids using smartphone apps. (
- 9 Alternative communication software allows visually impaired people to interact with a computer. (
- 10 Some programs can change text to speech and vice versa. (

3 Write the scientific term:

- 1 The kind of technology that helps people of determination. (
- 2 A tool that helps people who have trouble hearing to hear. (
- 3 A tool that helps blind people to read. (
- 4 A tool on the computer that enables visually impaired people to see. (
- 5 A tool that helps people who lost one of their limbs. (
- 6 It helps people with speech and language disabilities to communicate. (

4 Choose from column (A) what suits it in column (B):

Column (A)	Column (B)
People of determination	Can use
1 Blind person	a. Screen magnification software
2 People with hearing disabilities	b. Prosthetic device
3 Visually impaired person	c. Alternative communication software
4 Person with language disability	d. Medical hearing aids
5 Person with a limb difference	e. Braille method

1 2 3 4 5

5 Read and complete:

How can each of these assistive technologies be useful for people?
Who might find them most useful?

1 Sports balls that make a noise

2 Cell phones with large buttons

3 Hearing aids

4 Screen magnification software

5 Motorized wheelchairs

6 Read and complete:

Put these steps in order. How did Stephen Hawking make use of **speech synthesizer** technology?



- 1 When I have made a sentence, the computer sends it to a speech synthesizer. ()
- 2 I look at a screen. There are words on the screen. ()
- 3 I can press a switch in my hand. In this way, I select the words. ()
- 4 The speech synthesizer changes the words into an artificial voice, so people can hear what I want to say! ()
- 5 I can't speak, so I communicate using a computer system in my wheelchair. ()

- » ICT tools like computers, tablets, or laptops can help you do a lot of tasks such as:

يمكن أن تساعدك أدوات تكنولوجيا المعلومات والاتصالات في القيام بالعديد من المهام، مثل:

- ① Writing school reports and homework using Microsoft Word
- ② Researching information online
- ③ Playing games

- » However, these devices might have a temporary breakdown or failure that prevents you from turning them on.

في بعض الأحيان، تعاني هذه الأجهزة من عطل مؤقت يمنعك من تشغيلها.

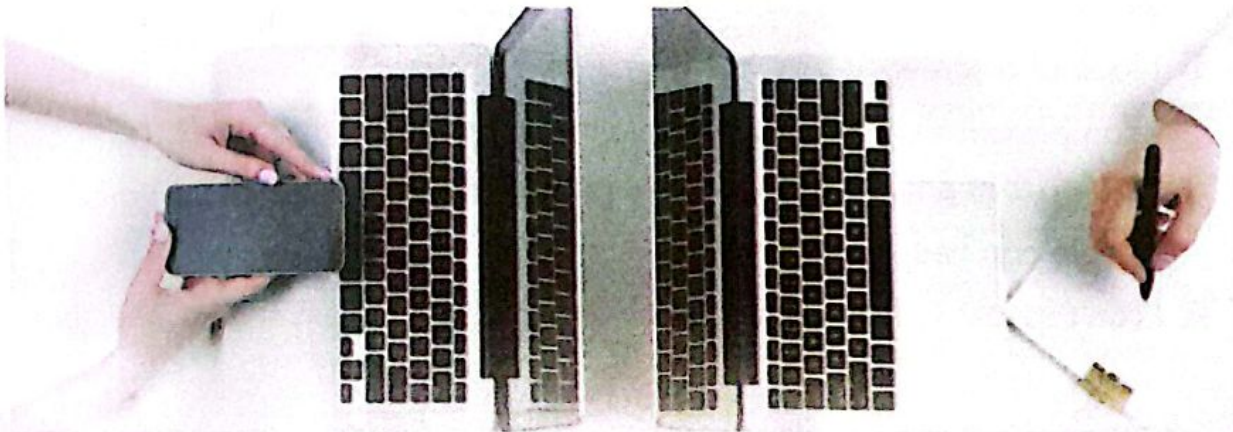
Explanatory



Information

معلومات توضيحية إضافية خارج الكتاب المدرسي

- 💡 ICT tools are a set of digital tools and devices that are used to create, process, manage, and communicate information.
- 💡 These tools include hardware devices such as computers, smartphones, and tablets, as well as software applications and programs such as word processors, spreadsheets, email, and social media platforms.
- 💡 ICT tools are important because they allow people to access and share information quickly and efficiently and to perform tasks that would be difficult or impossible to do without them.



Common ICT Problems and Solutions

Problem	Possible Solution (for a Window PC)
① An app won't open. 	1. Restart your computer. ↓ If the problem is not solved, 2. check software update. ↓ If the problem is not solved, 3. uninstall and reinstall the app. ↓ If the problem is not solved, 4. ask your teacher or family for help.
② The mouse cursor isn't working. 	1. Make sure that you connected the mouse cable to the correct place in the motherboard, then restart your PC. ↓ If the problem is not solved, 2. replace the mouse with a new one. ↓ If the problem is not solved, 3. ask your teacher or family for help.
③ The keyboard isn't typing. 	1. Make sure that you connected the keyboard cable to the correct place to the motherboard, then restart your PC. ↓ If the problem is not solved, 2. replace the keyboard with a new one. ↓ If the problem is not solved, 3. ask your teacher or family for help.

Problem	Possible Solution (for a Window PC)
④ Your screen freezes. 	1. Press and hold the "Ctrl + Alt and Del" buttons together. ↓ If the problem is not solved, 2. restart your computer. ↓ If the problem is not solved, 3. ask your teacher or family for help.
⑤ You can't find a file. 	1. Check your Downloads folder. • If you're looking for a Microsoft Word file, look in your Documents folder. • If you're looking for a photo, look in your Pictures folder. - Or 2. Try doing a search using the Search box next to the Start button. ↓ If the problem is not solved, 3. ask your teacher or family for help.

Test yourself

Complete:

- ① _____, _____ and _____ are examples of ICT tools.
- ② _____ solve most of ICT problems.
- ③ You can uninstall and reinstall an app to solve the problem of _____.
- ④ Press and hold _____ + _____ + _____ buttons if the screen freezes
- ⑤ If you can't find a file, you can search for it using _____.
- ⑥ If you try to solve a problem and fail, you should _____.



Exercises on Lesson 6

Choose the correct answer:

- 1 ICT tools, such as can help you do a lot of tasks.
a. computers b. MS Word c. both of them
- 2 Most ICT problems can be solved by
a. pressing Del+Alt+Ctrl
b. checking connection c. restarting the device
- 3 If the, you might need to check if the keyboard cable is connected or not.
a. mouse isn't working b. keyboard isn't working c. screen freezes
(محافظة القاهرة – إدارة الشروق 2023)
- 4 In case you couldn't open an application, you should
a. restart your device b. replace the mouse c. replace the keyboard
- 5 You can use to write school reports and homework.
a. MS PowerPoint b. MS Word c. MS Excel
- 6 Press and hold the "Ctrl + Alt and Del" buttons when
a. you can't find a file b. screen freezes c. an app can't open
(محافظة الجيزة – إدارة 6 أكتوبر 2023)
- 7 If an app can't be opened, the following are possible solutions, except
a. updating the app b. reinstalling the application
c. checking the Search box
- 8 The command responsible for closing all the applications on computers or laptops is
a. Del + Alt +Ctrl b. Alt+ Del+ Tab c. Del +Tab+ Shift
(محافظة بني سويف – إدارة بني سويف التعليمية 2023)
- 9 If you want to find a file on your PC, you should
a. restart the device b. press Alt + Ctrl +Del
c. use the Search box

10 If you download a file from the internet to your PC, you can find it in the folder.

- a. Downloads b. Pictures c. Documents

11 It is preferable, after repairing or reconnecting the mouse, to

- a. press Del+Alt+Ctrl c. restart the device
b. check electrical connections

12 When you are unable to solve a problem on your computer, you must

- a. delete some files from the computer
b. leave your computer for a while
c. ask your teacher or family for help

2 Put (✓) or (X):

- 1 If the app won't open, check that your software is up to date. ()
- 2 If you can't find a file, you should restart your computer. ()
- 3 Press Del + Alt + Ctrl if the mouse is not working. ()
- 4 Using the Search box helps you find any file on your PC. ()
- 5 If you are unable to open an application on your laptop, uninstalling and reinstalling the application may solve this issue. ()
- 6 The first thing you should do when you have a problem with your computer is to ask your teacher for help. ()
- 7 It is better to restart your computer after checking the keyboard connection. ()
- 8 If the app still won't open, restart your computer and try again. ()
- 9 ICT can help you to write your homework and play games. ()
- 10 Removing the Word program from your device helps solve most problems. ()

(محافظة كفر الشيخ - إدارة كفر الشيخ 2023)

3 Complete the following sentences using the suitable words between the brackets:

(find a file - screen freezes - app won't open - pointer doesn't work)

- 1 Press and hold the "Ctrl + Alt and Del" buttons when
- 2 Uninstall and reinstall the app wher. the

3 Do a search using the Search box next to the Start button to

4 Check the mouse connection to the motherboard when the

4  **Decide what the problem is based on the solution provided:**

Solution	Problem
1 Press and hold the "Ctrl", "Alt", and "Del" buttons.	
2 Do a search using the Search box next to the Start button.	
3 Restart your computer and try opening it again.	
4 Uninstall and reinstall the app.	

5  **Read and answer:**

Suggest solutions to these ICT problems.

1 Sara is doing her homework on her Windows® PC. Suddenly, the screen freezes. She presses and holds the "Ctrl", "Alt", and "Del" buttons, but that doesn't work. What else could she try to do?

2 Maged wants to send a file to his friends, but he can't find it on his Windows® PC. What solutions could he try?

3 Reem wants to listen to music on her favorite music app on her laptop. However, when she clicks on it, it doesn't open. What solutions could she try?

- 3 Do a search using the Search box next to the Start button to
- 4 Check the mouse connection to the motherboard when the

4 Decide what the problem is based on the solution provided:

Solution	Problem
1 Press and hold the "Ctrl", "Alt", and "Del" buttons.	
2 Do a search using the Search box next to the Start button.	
3 Restart your computer and try opening it again.	
4 Uninstall and reinstall the app.	

5 Read and answer:

Suggest solutions to these ICT problems.

- 1 Sara is doing her homework on her Windows® PC. Suddenly, the screen freezes. She presses and holds the "Ctrl", "Alt", and "Del" buttons, but that doesn't work. What else could she try to do?
.....
.....
- 2 Maged wants to send a file to his friends, but he can't find it on his Windows® PC. What solutions could he try?
.....
.....
- 3 Reem wants to listen to music on her favorite music app on her laptop. However, when she clicks on it, it doesn't open. What solutions could she try?
.....
.....

Collecting, Analyzing, and Graphing Data

» Scientists and archaeologists can solve problems by **collecting**, **analyzing**, and **graphing** data.

« يقوم العلماء وعلماء الآثار بحل المشكلات عن طريق قيامهم بجمع البيانات، وتحليلها، ورسمها بيانيًا.



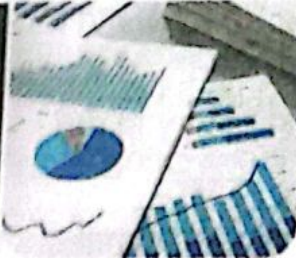
1 Collecting Data

You can collect data from a variety of sources, such as:

Books & Articles
(digital or print)



Records
(logs & reports)



Surveys



Experiments



« يمكنك جمع البيانات من بعض المصادر مثل:

- كتب ومقالات (رقمية أو مطبوعة).
- التسجيلات (السجلات والتقارير).
- الدراسات الاستقصائية.
- التجارب.

» Always make sure that the information you are collecting is **accurate** and from **trusted** sources.

تأكد دائمًا من أن المعلومات التي تجمعها دقيقة ومن مصادر موثوقة.

Explanatory Information

معلومات توضيحية إضافية خارج الكتاب المدرسي

Lesson 7

- 💡 Digital books and articles, also known as electronic books and articles, can be read on a variety of devices, such as smartphones, tablets, and computers.
 - 💡 Printed books and articles, on the other hand, are physical objects made of paper and ink.
 - 💡 Logs and reports provide a written record of information over time, logs are more detailed and provide a chronological record of events or activities.
- Reports, on the other hand, are usually more concise and provide a summary of information based on the data collected in the logs.
- 💡 A survey is a research method used to collect data about a topic from a sample of individuals or organizations, usually through the use of questionnaires or interviews.

2 Analyzing Data

» When you analyze the data that you collected:

- 1 Review your findings.
- 2 Interpret what those findings mean.
- 3 You can use the data to find out what happened, why it happened and what is likely to happen next, and what should be done.



« عندما تقوم بتحليل البيانات التي جمعتها:

الخطوة الأولى: قم بمراجعة تلك البيانات.

« يمكنك استخدام البيانات لمعرفة ما حدث، ولماذا حدث، وما المتوقع حدوثه بعد ذلك، وما الذي يجب عمله.

NOTES:

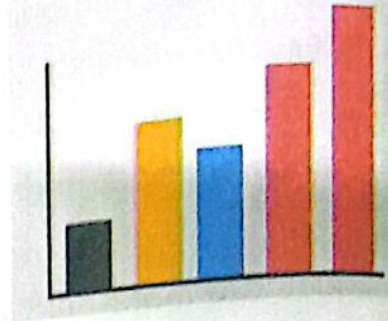
- 1 The best way to interpret a lot of data is to look for trends (recurring patterns) in the information.
- 2 Microsoft Excel is one of the best programs to analyze data.

« ملحوظة: ١. أفضل طريقة لتفسير الكثير من البيانات هي البحث عن الاتجاهات (الأنماط المتكررة) في المعلومات.
٢. برنامج الإكسل واحد من أفضل البرامج لتحليل البيانات.

3 Graphing Data

Once you have **analyzed** the information you have collected, you are ready to **graph** the information.

- » A common graph is a bar (column) graph.
- » Bar graphs clearly present and compare different categories of information.
- » You can draw graphs on **paper** or make them on a computer using software like **Excel**.



بمجرد أن تقوم بتحليل المعلومات التي جمعتها، فأنت على استعداد بتمثيل المعلومات بيانياً:
 الرسم البياني الشائع هو الرسم البياني العمودي.

الرسم البياني العمودي: يعرض بوضوح ويقارن فئات مختلفة من المعلومات.

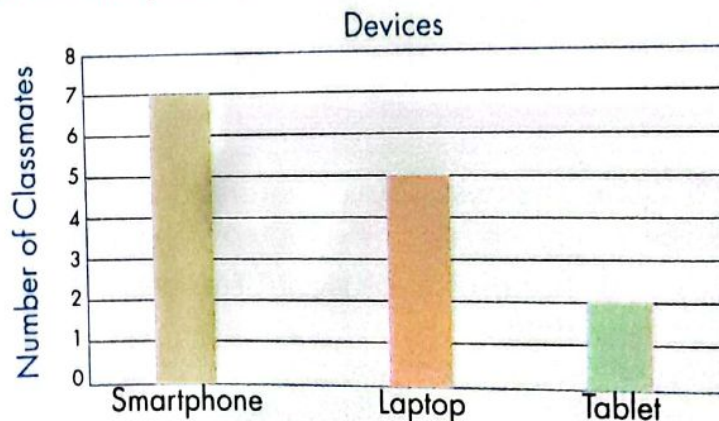
يمكنك القيام بالرسم البياني على ورقة أو على جهاز كمبيوتر باستخدام برنامج إكسل.

Examples:

- Nesma interviewed her classmates about their favorite devices. In total, she interviewed 14 classmates, collected their answers and sorted them into groups.



- » This is the information that she analyzed
 - Seven classmates said their favorite device was a smartphone.
 - Five classmates said their favorite device was a laptop.
 - Two classmates said their favorite device was a tablet.
- » After Nesma analyzed the information, she graphed it:



- (محافظة القاهرة - إدارة الشروق)

- 11 The program used to graph data is
 a. MS Word b. MS Excel c. MS PowerPoint
- 12 You can use whether they are printed or digital to collect data
 a. surveys b. interviews c. experiment
 محافظة الجيزة - إدارة جنوب التعليمية
- 13 When you analyze the data you've collected, you review your
 a. data b. information c. findings
- 14 One way to collect data for research is from existing records, such as
 a. logs b. reports c. both of them
- 15 The is the easiest way to display the result of a search or an opinion poll.
 a. presentation b. graph c. text message
 محافظة البحيرة - إدارة أبو حمص
- 16 The students can do inside the class to collect data about their favorite technology tools.
 a. surveys b. logs c. experiments
- 17 Once you have analyzed the information you have collected, you're ready to the information.
 a. collect b. graph c. remove
- 18 You can draw graphs using
 a. a computer b. paper and pen c. both of them

2 Put (✓) or (X):

- 1 Scientists can solve problems by collecting, analyzing, and graphing data. ()
- 2 Books and magazines are sources of data collection. ()
 محافظة بني سويف - إدارة بني سويف التعليمية (2023)
- 3 Surveys and experiments are two of the most important sources for data collection. ()
 محافظة الإسكندرية - إدارة المنتزه - نموذج (1)

- 4 MS Word is one of the best programs to analyze data. ()
- 5 The most common graph is the column graph. ()
- (محافظة بورسعيد - إدارة شمال)
- 6 You can collect data from many different sources. ()
- 7 You can't graph data on paper. ()
- 8 To obtain accurate search results, you can use social media sites. ()
- (محافظة أسبوط - إدارة أسبوط - نموذج 1)
- 9 The best way to interpret a lot of data is to look for recurring patterns. ()
- 10 Books and articles may be digital or printed. ()
- 11 The program that is used to graph data on computers is word. ()
- (محافظة الجيزة - إدارة جنوب التعليمية 2023)
- 12 When preparing a research, make sure the information you have collected is from untrusted sources. ()
- 13 Graphs are a good way to display, and compare results. ()
- (محافظة الدقهلية - إدارة طلخا التعليمية 2023)
- 14 It is better to extract recurring patterns from the data to be able to interpret it. ()

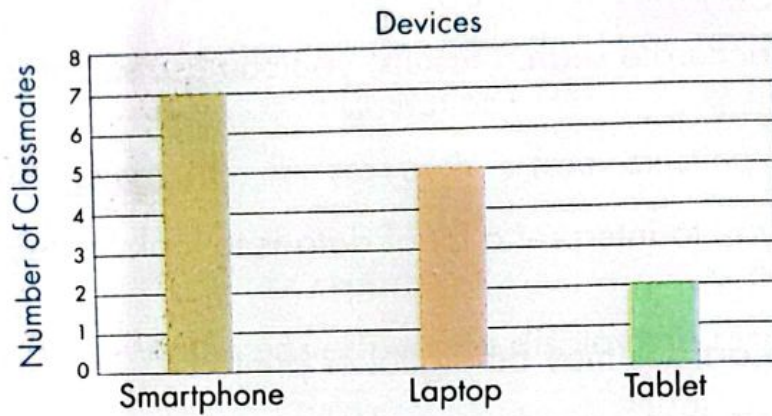
3 Complete the following sentences with the suitable words between the brackets:

(Excel - paper - Analyzing - Bar - data collection)

- 1 graph is the most common graph to compare different information.
- 2 is one of the most popular applications for designing graphs.
- 3 You can draw graphs on a
- 4 During, you must ensure that the information is accurate.
- 5 data is very important before drawing a chart.

4 Look at the following graph, then answer the questions.

Nesma interviewed her classmates about their favorite devices. In total, she interviewed 14 classmates, collected their answers and graphed them.



1 What is the type of this graph?

2 What is the application that Nesma used?

3 What is the highest category?

4 What is the lowest category?

5 What is the difference between the highest category and the lowest category?

1 Digital blogs المدونات الرقمية

» A website that contains **personal notes** and **opinions**.

» موقع يحتوي على مذكرات وآراء شخصية.

» Only one person is responsible for it.

» يكون المسئول عنها فرد فقط.



2 Published articles (digital or printed)

» Some articles contain **texts** only, while others include **images** and **infographics**.

» Articles express **the opinion of the author**.

» Digital articles are available for reading and downloading on various sites.



» تحتوي بعض المقالات على نصوص فقط بينما يشتمل بعضها على صور ورسوم بيانية.

» المقالات تعبر عن رأي كاتبها.

» تتوفر المقالات الرقمية للقراءة والتنزيل في مواقع مختلفة.

3 Social media sites

» They allow communication with people electronically and the sharing of texts, photos, and videos.

» You can interact with your friends by writing posts and comments online.



Examples: Facebook – Twitter – Instagram.

» إنها تتيح التواصل مع الأشخاص إلكترونياً ومشاركة النصوص والصور ومقاطع الفيديو.

» يمكنك التفاعل مع أصدقائك من خلال كتابة المنشورات والتعليقات عبر الإنترنت.

4 Email البريد الإلكتروني

- » The most common way to report data
« الطريقة الأكثر شيوعًا للإبلاغ عن البيانات.
- » You can send a short report and attach a file with it.
« يمكنك إرسال تقرير قصير وإرفاق ملف به.



5 TV programs البرامج التلفزيونية

- » These are meetings that present opinions and information in the form of television talk shows on satellite broadcasting channels.
« هي لقاءات تعرض الآراء والمعلومات في شكل حوار على قنوات البث الفضائي.



6 Interviews المقابلات

- » A face-to-face conversation between two or more people to obtain information.
« محادثة بين شخصين أو أكثر للحصول على معلومات.



7 Text messages رسائل نصية

- » Communication among people using short text messages (SMS) via the internet.
« اتصال بين الأشخاص باستخدام الرسائل النصية القصيرة عبر الإنترنت.



8 Video chats محادثات فيديو

- » Communication among people using video through some applications (Messenger – WhatsApp – Skype).
« اتصال بين الأشخاص باستخدام الفيديو من خلال بعض التطبيقات.
- » You need a camera and a microphone to communicate with others.
« سوف تحتاج إلى كاميرا وميكروفون للتواصل مع الآخرين.



8

- 1

- 10 When using a/an, you can attach files to your message.
a. video call b. email c. interview
- 11 is a way to report information by writing posts and comments online.
a. Video chat b. Social media c. Interview
- 12 The camera and microphone are used in
a. published articles b. text messages c. video calls
- 13 is a way of exchanging messages between a team.
a. Blogging b. Email c. Text message
- 14 A way to report information through talk shows, is called
a. TV programs b. interviews c. video chat
- 15 Social media sites, such as
a. Facebook b. Instagram c. both of them
- 16 One of the applications that is used to make video call is
a. Skype b. Messenger c. both of them

2 Put (✓) or (X):

- 1 One way to report data is through email. ()
محافظة الإسكندرية - إدارة العجمي
- 2 Email is used to share posts and comments online. ()
- 3 Researchers usually use published articles to report their information. ()
- 4 A blogger is someone who runs and controls a digital blog. ()
- 5 Email is used to share data and communicate among friends. ()
محافظة الجيزة - إدارة 6 أكتوبر
- 6 Social media is the best way to get accurate information. ()
- 7 The most common way to report data is video chat. ()
- 8 One person is responsible for the blog. ()
محافظة بورسعيد - إدارة شمال

- 9 An interview is a conversation between two or more people face-to-face.
()

(محافظة المنوفية - إدارة السادات التعليمية)

- 10 Online SMS is a way of communicating among people via the internet.
()

3 Complete the following sentences with the suitable words between the brackets:

(Social media sites - Video chats - Interviews - TV programs - Blogs - Emails - Published digital articles - Instant messages)

- 1 are visual communication online using a webcam and microphone.
- 2 are the most common ways to send data and attach related files.
- 3 are face-to face conversations between two persons to get information.
- 4 are communication among people using short text messages online.
- 5 are meetings that present information in the form of talk shows.
- 6 are websites that contain personal notes and opinions.
- 7 are ways to communicate by sharing posts and comments online.
- 8 contain information available for publication and download.